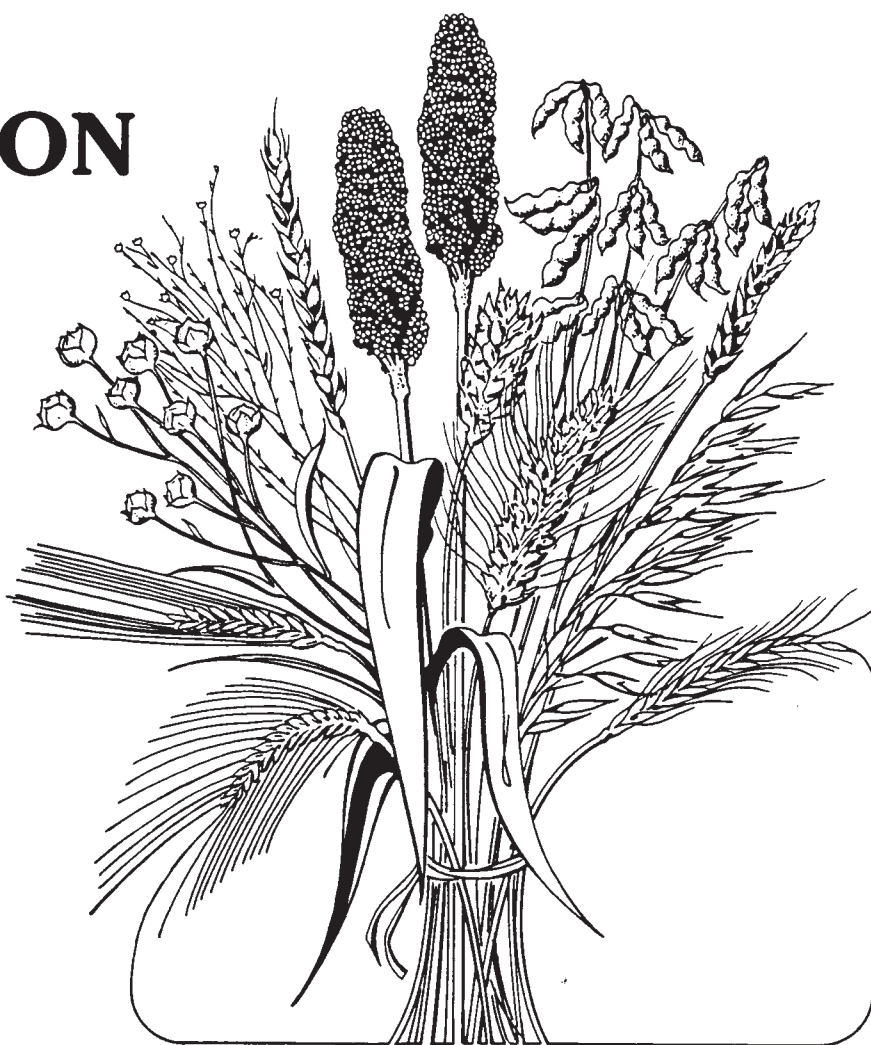


PLANT SCIENCE

AGRONOMY

EXHIBIT PREPARATION MANUAL



**4-H
Member's Guide**

CONTENTS

4-H PLANT SCIENCE: AGRONOMY

EXHIBIT PREPARATION

| | |
|---------------------------------------------------------|----|
| Acknowledgments and Introduction | 1 |
| Cotton Exhibit | 3 |
| Ear Corn Exhibit | 4 |
| Sorghum Exhibit | 5 |
| Threshed Seed Exhibit | 6 |
| Small Seed Legumes and Grasses | 7 |
| Large Seed Legumes | 8 |
| Seed Barley Score Card | 9 |
| Seed Oats Score Card | 9 |
| Seed Wheat Score Card | 10 |
| Threshed Grain Sorghum Seed Score Card | 10 |
| Peanut Score Card | 11 |
| 4-H Crop Exhibit With Supporting Report | 11 |
| Forage Plants | 12 |
| Plants for Forage Exhibits | |
| Grasses and Forbs with Good or Fair Grazing Value | 14 |
| Grasses and Forbs with Poor Grazing Value | 14 |
| Forage Legumes | 15 |
| Exhibiting Forage Bundles | 16 |
| Score Cards | |
| Sorghum, Corn, and Millet Forage Bundles | 16 |
| Other Forage Bundles | 16 |
| Small Grain Bundles | 17 |
| Forage Plant Life Cycle Exhibit | 17 |
| Hay Exhibits | 18 |

Oklahoma State Cooperative Extension Service does not discriminate because of race, color, sex, or national origin in its programs and activities, and is an equal opportunity employer. Issued in furtherance of cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Charles B. Browning, Director of Cooperative Extension

Service, Oklahoma State University, Stillwater, Oklahoma. This publication is printed and issued by Oklahoma State University as authorized by the Dean of the Division of Agriculture and has been prepared and distributed at a cost of 5726.00 for 2,000 copies. 0890 CC.

4-H PLANT SCIENCE: AGRONOMY EXHIBIT PREPARATION

Acknowledgments

Authors

Steve Hawkins and Kevin Donnelly, Department of Agronomy

Dean McCraw, Department of Horticulture and Landscape Architecture
based upon an original manuscript prepared by Dr. Joe Maxson

Curriculum Production

James A. Rutledge and Charles B. Cox, 4-H Department

INTRODUCTION

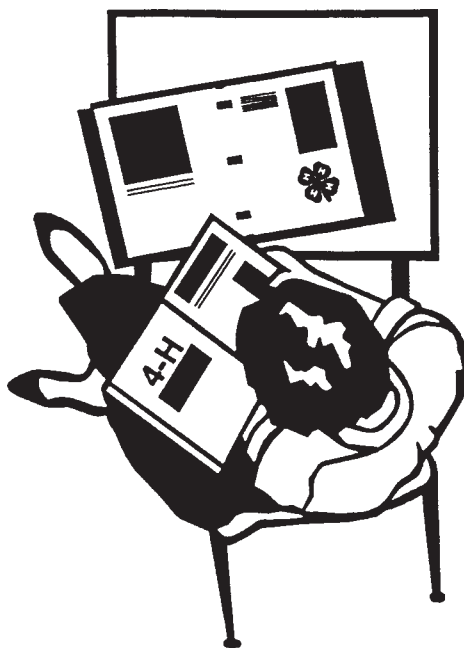
Exhibiting 4-H projects is a unique learning experience. It gives you the opportunity to “show off” what you have done and to compare your crops, forages, etc. with those exhibited by other 4-H’ers throughout Oklahoma.

Exhibiting crops requires knowledge and skill in at least two areas. Growing the crop is a skill unto itself. As a 4-H’er enrolled in the 4-H Plant Science Agronomy Project, you have the opportunity to use the latest in cultural practices to grow a quality product. But growing a crop is only part of being a good agronomist. Proper harvesting and handling techniques must be practiced to allow you to realize maximum benefit from your crop. Proper exhibit preparation teaches you how to determine maturity, and how to select for the highest quality as well as how to prepare a sample to look its best.

Enroll in a Plant Science Agronomy Project. You have ten different projects to choose from. Get involved in crop production and prepare an exhibit for the fair. You will learn, you will make new friends, and you will have fun!

Here are some tips for exhibit preparation.

1. Check the catalog for exact requirements for your exhibit.
2. Select exhibits that you can do yourself. It’s fine to ask for help on some exhibits, but do the majority of the work yourself. It will mean more to you.
3. Start early--some exhibits can be started and completed several months before the show or fair. Waiting until too late will keep you from doing your best.



4. Prepare more material than you need so you can select the best to exhibit.
5. Follow the directions in the catalog as closely as possible. In some cases, judges use this to determine winners.

THIS MANUAL WILL HELP YOU KNOW HOW TO PREPARE AGRONOMY EXHIBITS, AND WHERE TO GET MORE INFORMATION. IT WILL ALSO GIVE YOU SOME TIPS ON HOW TO DO THE BEST JOB POSSIBLE.

Good Luck



The following general guidelines should be used in preparing fair exhibits. Be sure to check specific fair regulations for additional information. Information in this guide will also serve as a reference for placing classes in the state 4-H crops judging contest. The crops judging contest also consists of plant and seed identification. Refer to 4-H Plant Science - 2 Member Guide for additional information on crops judging.

COTTON - 20 BOLLS

Select mature open bolls. Do not attempt to dry half opened bolls by placing them in a stove or warm area. The bolls or plants should be allowed to mature in the field. Watch for the first large bolls to mature and collect them before they are damaged by weather.

As in other exhibits, select several times as many bolls or plants as you will need for the exhibit.

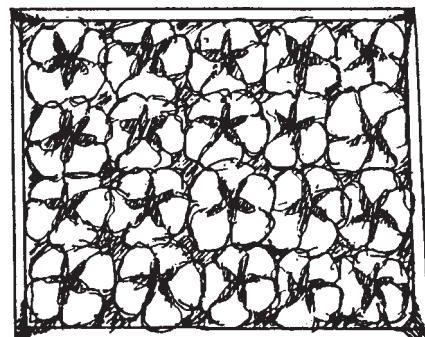
After mature bolls are selected, the bracts or leafy material on the back of the bolls should be removed and the stem cut off close to the burr. A sharp pocket knife or pruning shears can be used to do this. Care must be taken to prevent crushing the burrs.

All leaf-trash and dirt should be removed from the lint. Each lock can be tested for drag, maturity, and number of seeds by holding the lock in place with the left hand and grasping the end with the thumb and forefinger and pulling it out 3 or 4 inches. The term "drag" means stretching the lock to or near the breaking point. A perfect lock of American upland cotton should have nine seeds arranged in pairs from the boll out. The last or tip end seed is single. After the locks are tested for drag, they can be pushed back in place and the boll will appear much larger than it was originally. Cotton bolls should be shown in a shallow cardboard box which is large enough to accommodate 20 open bolls. An ordinary shirt box about 12 by 16 to 18 inches is a good size for a 20 boll exhibit.

There are several "don'ts" which may be helpful to the exhibitor. Don't show one-year-old cotton; don't replace locks and try to glue them into position; don't show dirty, trashy cotton; don't show four lock and five lock bolls in the same exhibit. In American upland cotton most bolls will have five locks. Follow the score card for cotton and the directions given in the fair catalog.

OPEN BOLLS OF COTTON SCORE CARD

| | |
|-------------------------------------------------------------------------------------------------------|-----|
| Quality | 30 |
| Fiber strong, mature, uniform, hardy body, good luster, creamy white color, free from dirt and trash. | |
| Staple | 25 |
| Uniform in length, mature and medium long, silky staple to 1 1/4 inches given preference. | |
| Linting percent | 15 |
| 35 to 40 percent as indicated by drag and body of fiber on seed. | |
| Size of bolls | 10 |
| 60 to 70 per pound, five locks and uniform in size. | |
| Drag | 10 |
| One lock from five bolls shall be tested for drag. | |
| Purity | 10 |
| As indicated by the size and shape of bolls and seed color | |
| Total | 100 |



EAR CORN EXHIBIT

Shape of Ear and Kernels. Shape of ear varies with the hybrid and should conform to the accepted hybrid type. Other factors being equal, an ear medium in circumference is to be preferred to an ear with a large circumference. Kernel shape varies somewhat with the hybrid. However, kernels of keystone shape are preferred. Distinctly narrow, thin, or pointed kernels should be avoided.

Color of Kernel and Cob. The color of the kernel and of the cob should conform to the accepted standards of the hybrid as specified by the seed company. Indications of mixtures such as white caps in a yellow hybrid or yellowish grains in a white hybrid should be avoided.

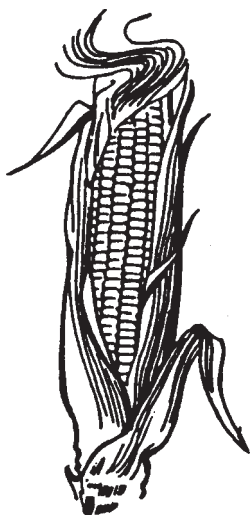
Indentation and Texture. Kernels smooth or medium in indentation are to be preferred to a rough indentation. Kernels with a dimple dent or crease dent represent proper utility type. Kernels with a pinch or hook dent are objectionable. Likewise, the texture of the kernel should be mostly horny with only a small proportion of soft starch through the center and near the crown.

Uniformity. Uniformity in ear and kernel characteristics and in color indicates freedom from mixtures of varieties or types. When other factors are equal, exhibits should be as uniform as possible in all characteristics.

Size and Maturity of Ear and Kernel. Harvest when black layer forms at tip of kernel next to cob. The black layer is the abscission layer indicating separation of kernel from cob. Break an ear to observe black layer formation. A well formed mature ear will usually weigh about 2/3 lb. The ear should be filled completely to the tip. Missing kernels at the tip of the cob are an indication of moisture stress, insect or bird damage. Avoid ears with cracked, broken or missing kernels. Trim ear base flush with end of cob. Remove all husks prior to trimming. Store in cool, dry place to speed drying, e.g. closet in house. Moth balls may be placed near corn to deter insects. After sample is dry, place in plastic bag with moth ball and hold until show time.

Selecting the Sample. Begin by selecting 40-50 ears or more from the field. Separate the ears into groups according to each category listed above, e.g. shape, color, indentation. Harvest and sort more ears if needed until at least one group contains 10-15 ears the same shape, color, texture, etc., as close as possible to the optimum. Select the exhibit from this group. Check the fair catalog for the exact number of ears for an exhibit. Take at least two extra ears to the show to replace those possibly damaged in transit.

Display. Display the exhibit in a container just large enough to accommodate the exhibit. A cardboard box trimmed to about 2" deep works well. A box the size of a case lot of canned drinks is about the right size.



EAR CORN SCORE CARD

| | | |
|----------------------------|----|-----------|
| Type and purity | | 40 |
| Shape of ear and kernel | 10 | |
| Color of kernel and cob | 10 | |
| Indentation and texture | 10 | |
| Uniformity | 10 | |
| Quality | | 60 |
| Maturity of sample | 15 | |
| Size of ear and kernel | 10 | |
| Freedom from disease | 15 | |
| Size and condition of germ | 20 | |
| Total | | <hr/> 100 |

SORGHUM HEAD EXHIBIT

Weathering and Staining. Harvest the sample as soon as possible after formation of the black layer. Remove the sample to a spot protected from the weather. This prevents staining and maintains color typical of the hybrid.

Maturity. Check maturity by observing formation of a black abscission layer between the seed and the stem. The black layer formation begins at the tip of the head and progresses down toward the main stalk. Heads without the black layer are immature.

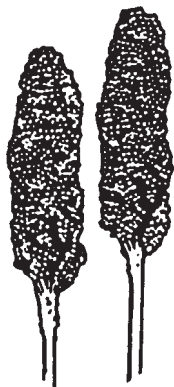
Insects, Diseases, and Bird Damage. Observe each head closely for insect, disease, or bird damage. Discard any head which shows signs of smut or other diseases, midge tip blast or other insect or bird damage.

Shattering. Sorghum heads shatter more easily as moisture content decreases. Harvest the heads as soon as the seed is in the hard-dough stage of kernel development. Tightly wrap the heads individually in newspaper and place them in a warm, dry spot to speed drying. Try to find a spot with good air movement to prevent molding. If the heads must be stored more than a few days until the show, place in plastic bag with moth balls to deter insects. Handle the heads very carefully to prevent the seed from shattering. It is a good idea to have several extra heads. Exhibit those heads with little or no shattering or missing seed.

Type and Purity. Collect 25-30 heads or more at or just before harvest. Sort into uniform groups based on size, shape, seed fill and varietal mix. Select the required number from the group for exhibit. Each head of the exhibited group should resemble as closely as possible all other heads in that group. The heads should be well filled from tip to base with no immature or missing grain. Leave approximately 3" of stalk below the head. Size, condition, shape and, perhaps most important, uniformity are major factors to consider in preparing the exhibit.

Handle the heads carefully enroute to the show. Display them in a shallow box just large enough to hold the number of heads required for an exhibit as indicated in the fair catalog. A shirt box 12" by 16-18" should be adequate.

HEAD GRAIN SORGHUMS SCORE CARD



| | |
|-----------------------------|---------------------------------------------------|
| Type and purity | 50 |
| Uniformity (size and color) | 10 |
| Poorly filled bases | 5 |
| Size and shape of head | 20 |
| Varietal mixture | 15 |
| Quality | 50 |
| Weathering and staining | 10 |
| Immaturity | 10 |
| Disease (smuts) | 15 |
| Insect damage | 10 |
| Shattered | 5 |
| Total | <hr style="width: 10%; margin: 0 auto;"/> 100 |

THRESHED SEED EXHIBIT

Legumes, Grasses, Barley, Oats, Wheat, Grain Sorghum Seed and Peanuts

Preparing exhibits in these areas requires more patience and time than some other exhibits. The 4-H member will usually start with grain from the combine. Listed below are some steps that will help in preparing a good exhibit.

1. To prepare a 15 lb. exhibit, about 2 gallons, start with a 30-40 lbs. sample. Select the sample from a field as free as possible from weeds.
2. Be sure the sample is mature and dry.
3. When you have a choice, select grain that is rich in color and not bleached out by sun and weather. (Early cut grain is sometimes better in this respect.)
4. Protect the sample from mice, insects and moisture. If the sample must be stored for any length of time, place moth balls nearby to deter insects.
5. When preparing the sample, it should be “winded” to remove dirt, light grain and trash. Do this by pouring the grain from one container into another and letting the wind (naturally or from a fan) blow through it. This may need to be done several times to get the sample clean.
6. After winding, the next step in cleaning is to remove cracked and broken grain, weed seeds, other varieties, other crops, off-colored seeds and those showing other faults and defects. Hand picking will be necessary to remove all defects.
7. To a great extent, the quality of the sample depends upon how much time the exhibitor is willing to spend preparing the exhibit.
8. Display the exhibit in a bag or box no larger than required. A paper bag with the top rolled down to a level even with the top of the sample works well.



Mixed Grain

SMALL SEED LEGUMES AND GRASSES

Luster. A dull, lifeless appearance is apt to be due to weathering or age, and is considered an indication of reduced viability. A dull, reddish tinge is an indication of extreme age in alfalfa and covers.

Freedom from Inert Material. Chaff, stems, soil and broken seeds are classed as inert material.

Freedom from Other Crop Seed. Primarily other small seeded legumes or grasses.

Plumpness. Shrunken seeds of an unnatural brown or greening color are immature and of low viability.

Freedom from Prohibited Noxious Weeds. Listed below:

| <u>Name of Weed</u> | <u>Limitations</u> |
|-----------------------------------------------------------------------------------------------------------------------------|--------------------|
| 1. Bindweed, Field (<i>Convolvulus arvensis</i>) | Prohibited |
| 2. Knapweed, Russian (<i>Centaurea picris</i>) | Prohibited |
| 3. Musk Thistle (<i>Carduus nutans</i>) | Prohibited |
| 4. Nutsedge (<i>Cyperus rotundus</i>) | Prohibited |
| 5. Red Horned Poppy (<i>Glaucium corniculatum</i>) | Prohibited |
| 6. Serrated Tussock (<i>Nasella trichotoma</i>) | Prohibited |
| 7. Sicklepod (<i>Cassia obtusifolia</i>) | Prohibited |
| 8. Thistle, Canada (<i>Cirsium arvense</i>) | Prohibited |
| 9. Whitetop or Hoary Cress (<i>Cardaria draba</i>) | Prohibited |
| 10. Wild Oat (<i>Avena fatua</i> , <i>Avena sterilis</i> , and other wild noncultivated <i>Avena</i> spp.) (In Wheat Only) | Prohibited |
| 11. Yerba De Tajo (<i>Eclipta alba</i>) | Prohibited |

Freedom from Restricted Noxious Weeds. Listed below

| | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| 1. Balloonvine (<i>Cardiospermum halicacabum</i>) | 9 per lb. |
| 2. Bindweed, Hedge (<i>Calystegias septum</i>) | 27 per lb. |
| 3. Blueweed, Texas (<i>Helianthus ciliaris</i>) | 45 per lb. |
| 4. Buchvheat, Wild (<i>Polygonum convolvulus</i>) | 18 per lb. |
| 5. Cheat or Chess (<i>Bromus secalinus</i>) | 200 per lb. |
| 6. Cocklebur (<i>Xanthium</i> spp.) | 3perlb. |
| 7. Corncockle (<i>Agrostemma githago</i>) | 45 per lb. |
| 8. Darnel (<i>Lolium temulentum</i>) | 90 per lb. |
| 9. Dock (<i>Rumex</i> spp.) | 90 per lb. |
| 10. Dodder (<i>Cuscuta</i> spp.) | 90 per lb. |
| 11. Foxtail, Giant (<i>Setaria faberi</i>) | 63 per lb. |
| 12. Goatgrass, Jointed (<i>Aegilops cylindrica</i>) | 5 per lb. |
| 13. Horsenettle (<i>Solanum carolinense</i>) | 90 per lb. |
| 14. Johnsongrass (<i>Sorghum halepense</i>) | 45 per lb. |
| (Except Johnsongrass will be permitted in Yellow bluestem, Caucasian bluestem, and chaffy grasses not to exceed 300 per pound, | |
| 15. Moonflower or Giant Morningglory (<i>Calonyction muricatum</i>) | 5 per lb. |
| 16. Morningglory, Wild (<i>Ipomoea</i> spp.) | 45 per lb. |
| 17. Mustard, Wild (<i>Brassica</i> spp.) | 45 per lb. |
| 18. Nightshade, Purple (<i>Solanum elaeagnifolium</i>) | 90 per lb. |
| 19. Oat, Wild (<i>Avena fatua</i> , <i>Avena sterilis</i> , and other wild noncultivated <i>Avena</i> spp.) (Except In Wheat) | 9 per lb. |
| 20. Onion, Wild or Garlic (<i>Allium</i> spp.) | 18 per lb. |
| 21. Plantain, Bracted (<i>Plantago aristata</i>) | 90 per lb. |
| 22. Plantain, Buckhorn (<i>Plantago lanceolata</i>) | 90 per lb. |
| 23. Quackgrass (<i>Elytrigia repens</i>) | 45 per lb. |
| 24. Sorrel, Sheep or Red (<i>Rumex acetosella</i>) | 90 per lb. |
| Sum total noxious weeds (subject to above limitations) (Except in Yellow bluestem, Caucasian bluestem, and chaffy grasses, the sum total noxious weeds shall not exceed 500 per pound.) | 250 per lb. |

SMALL SEED LEGUMES AND GRASSES SCORE CARD

(Alfalfa, Sweetclover, Arrowleaf Clover, Red Clover, Lespedeza, Tall Fescue, Ryegrass, Bermudagrass, Etc.)

| | |
|----------------------------------------|----------|
| Luster | 15 |
| Freedom from inert material | 5 |
| Freedom from other crop seed | 10 |
| Plumpness | 15 |
| Freedom from prohibited, noxious weeds | 30 |
| Freedom from restricted, noxious weeds | 20 |
| Freedom from common weeds | <u>5</u> |
| Total | 100 |

LARGE SEED LEGUMES

Foreign material. Includes stems, soil, fragments of pods, and the like.

Natural Color. Bright, attractive appearance and color typical of the variety; affected by age, particularly in cowpeas, also by mottling as in soybeans.

Freedom from Damage. Includes cracked seed, scarified or nicked seed coats (threshing damage), ground damage and weathering, also weevil injury.

Maturity. Lack of maturity is indicated particularly by swollen or shrunken seed, also by wrinkled seed coats.

Freedom from Mixture of Varieties. Is determined by inspecting color, shape, hilum, markings.

Freedom from Mixture of Other Crops. Such as cowpeas in soybeans, etc.

Freedom from Disease. Particularly purple seed stain in soybeans.

Freedom from Harmful Weeds. Limited chiefly to noxious weeds.

Uniformity. Refers to uniformity in size and shape within the variety.

LARGE SEED LEGUMES SCORE CARD

(Soybeans, Mungbeans, Cowpeas, etc.)

| | |
|-------------------------------------|----------|
| Freedom from Foreign material | 5 |
| Natural color | 10 |
| Freedom from damage | 5 |
| Maturity | 10 |
| Freedom from mixture of varieties | 20 |
| Freedom from mixture of other crops | 15 |
| Freedom from disease | 10 |
| Freedom from harmful weeds | 20 |
| Uniformity | <u>5</u> |
| Total | 100 |

SEED BARLEY SCORE CARD

| | | |
|------------------------------------------------------------------|----|------------|
| Freedom from mixture | | 30 |
| Other varieties of barley | 10 | |
| Indicated by distinct difference of color, also hull-less barley | | |
| Other crops | 20 | |
| Especially oats, wheat and rye | | |
| Freedom from inert material | | |
| Including stems, dirt, and chaff | | 5 |
| Freedom from weed seeds | | 35 |
| Prohibited noxious weeds | 20 | |
| Restricted noxious weeds | 10 | |
| Common weeds | 5 | |
| Soundness | | 30 |
| Weathering and ground damage | 10 | |
| Disease (black or pink kernel bases) | 10 | |
| Shrunken | 5 | |
| Shattered hulls and cracked kernels | 5 | |
| Total | | <u>100</u> |

SEED OATS SCORE CARD

| | | |
|------------------------------------------------------|----|------------|
| Freedom from mixture | | 30 |
| Other varieties of oats | 10 | |
| Indicated by distinct differences in shape and color | | |
| Other crops | 20 | |
| Especially barley, wheat and rye. | | |
| Freedom from inert material | | |
| Including stems, dirt, and chaff. | | 5 |
| Freedom from weed seeds | | 35 |
| Prohibited noxious weeds | 20 | |
| Restricted noxious weeds | 10 | |
| Common weeds | 5 | |
| Soundness | | 30 |
| Weathering and ground damage | 10 | |
| Staining (due to age) | 5 | |
| Lack of luster | 5 | |
| Light weight | 5 | |
| Skinned oats (hulled) | 5 | |
| Total | | <u>100</u> |

SEED WHEAT SCORE CARD

| | | |
|----------------------------------------------------|----|----------|
| Freedom from mixture | | 30 |
| Other classes of wheat | 10 | |
| (durum, white wheat, etc) | | |
| Other varieties of wheat within the class | 5 | |
| (indicated by distinct differences | | |
| in shape) | | |
| Other crops | 15 | |
| Especially rye, vetch, oats, barley. | | |
| Freedom from inert material | | 5 |
| Including stems, dirt, chaff, and cracked kernels. | | |
| Freedom from weed seeds | | 35 |
| Prohibited noxious weeds | 20 | |
| Restricted noxious weeds | 10 | |
| Common weeds | 5 | |
| Soundness | | 25 |
| Weathered, bleached, and heat damage | 10 | |
| Sprouting | 5 | |
| Disease (scab, smut, or blacktip) | 5 | |
| Shrunken | 5 | |
| Hardness | | <u>5</u> |
| Soft texture indicated by starchy appearance | | |
| Total | | 100 |

THRESHED GRAIN SORGHUM SEED SCORE CARD

| | | |
|---------------------------------------------|----|-----------|
| Freedom from mixture | | 45 |
| Other varieties or hybrids of sorghums | 10 | |
| Non-grain sorghums (cane seed, sudan, etc.) | 5 | |
| Other crop seeds | 5 | |
| Weed seeds | | |
| Noxious weeds | 10 | |
| Common weeds | 10 | |
| Foreign material | 5 | |
| Condition and soundness | | 45 |
| Weathering and staining | 10 | |
| Immaturity (shriveled, green color) | 10 | |
| Disease (smut) | 10 | |
| Broken grains | 5 | |
| Insect damage | 5 | |
| Sprouted | 5 | |
| Uniformity | | |
| Size, shape, and color | | <u>10</u> |
| Total | | 100 |

PEANUT SCORE CARD

| | | |
|------------------------------------------------------------------|----|-----------|
| Freedom from mixture | | 20 |
| Other varieties of peanuts | 15 | |
| Other crops | 5 | |
| Freedom from foreign material | | |
| Trash, rocks, stems, vines, etc. | | 10 |
| Soundness | | 30 |
| Disease | 10 | |
| Insect damage | 5 | |
| Mechanical damage | 5 | |
| Moldiness and partial decay | 10 | |
| Maturity | | 20 |
| Harvested green, too much moisture | 10 | |
| Shriveled, not well developed | 10 | |
| Uniformity | | |
| Well developed and well selected, same size, shape and color. | | <u>20</u> |
| Total | | 100 |

4-H Crop Exhibit With Supporting Report

Exhibits in this section will include the five major crops: wheat, cotton, grain sorghum, peanuts and soybeans.

Samples of each crop may be the same one entered in its appropriate class above. Supporting report must be on a form prepared for State Fair use.

Scoring: Placing will be on the basis of exhibit and supporting report; 50% on quality of the sample and 50% on scientific production practices.

Scientific production practices will be reported on a form available from your local County Extension Office, from the Department of Horticulture and LA. or the Department of Agronomy, OSU. These practices will include: quality seed selection; planting methods; disease, weed and insect control; soil management and the proper use of fertilizers; harvesting preparations and methods; and marketing practices.

This written supporting report must be sent to Dept. of Agronomy, OSU by September 1.

1. Soybeans - one peck and report
2. Wheat - one peck and report
3. Cotton - 20 open bolls and report
4. Grain Sorghum - 6 heads and report
5. Peanuts - one peck and report

FORAGE PLANTS

An exhibit consists of ten (10) native or introduced, annual, biennial, or perennial plants mounted on plywood, pegboard, or other suitable material approximately 3' x 3'. Two holes 1/2" in diameter and 1" from the top should be drilled in the board to facilitate displaying the exhibit.

Single plants or bundles not to exceed 1" in diameter may be used. No plant should extend above or below the display board. Plants must be exhibited in the bloom or mature stage of growth.

Plants must be labeled with the common name with letters about 1/2" high. Labels must be placed above, below, or across the plants.

The exhibitor's name and address must be on the back of the display board.

Suggested references are the current "Pasture and Range Judging in Oklahoma" brochure available at County Extension Centers and up to date textbooks.

Exhibit classes of forage plants are:

- Grasses and forbes with good or fair grazing value
- Grasses and forbes with poor grazing value
- Forage Legumes (non-poisonous)

Make a Forage Plant Fair Exhibit:

A good way to learn the names of forage plants is to prepare a forage plant fair exhibit. (Be sure to check to see if there is an exhibit for this in the fair you enter.) Ask your parents or 4-H leader to help you find and identify the plants and prepare your display board. Directions for this exhibit are on the next page.

If you live in town, you can still make a forage plant exhibit. Many forage plants can be found along roadsides and in park areas. Ask a farmer or rancher for permission to collect plants on his land. Perhaps he can help you name them.

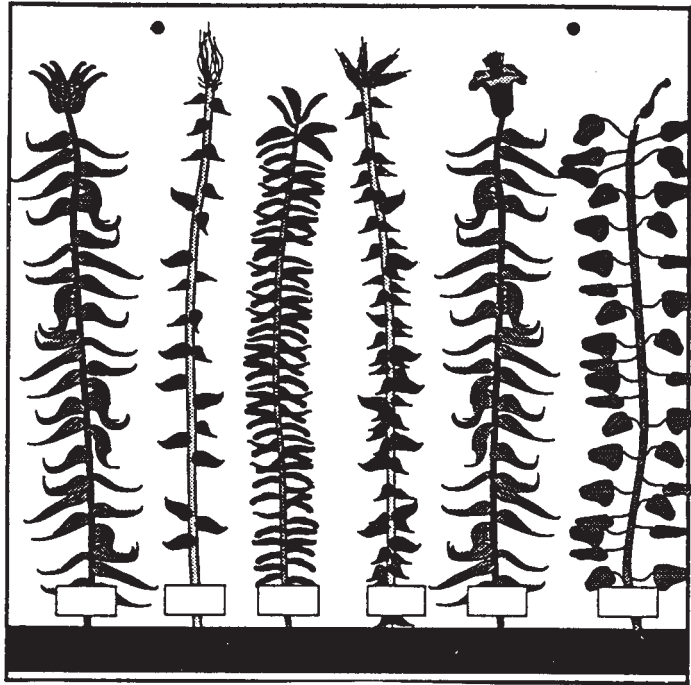
Collect plants and let them dry or cure for 2-3 weeks before preparing the exhibit. Hanging plants upside down will allow leaves to dry straight. Some plants may also be rolled in newspapers to keep them flat and avoid leaf curling.

HERE'S HOW:

1/2" holes 1" from top...

Plants should be in bloom or mature stage.

Common name in 1/2" letters above, below, or under plants.



3' by 3' plywood pegboard, or other suitable material.

Single plant or bundles not over 1" in diameter.

Fasten with small wire through holes

Exhibitor's name and address must be on back of board.

If plants are too tall, trim them or fold them so parts of plants do not hang over edges of board.

PLANTS FOR FORAGE EXHIBITS

1. Grasses and Forbs with Good or Fair Grazing Value

| | |
|-----------------------------------------------------|----------------------------------------------------|
| Annual brome (<i>Bromus</i> spp.) | Little bluestem (<i>Andropogon scoparius</i>) |
| Bermudagrass (<i>Cynodon dactylon</i>) | Longspike tridens (<i>Tridens strictus</i>) |
| Big bluestem (<i>Andropogon gerardi</i>) | Perennial sunflower (<i>Helianthus</i> spp.) |
| Blacksampson (<i>Echinacea</i> spp.) | Pitchers sage (<i>Salvia pitcheri</i>) |
| Blue grama (<i>Bouteloua gracilis</i>) | Plains lovegrass (<i>Eragrostis inter-media</i>) |
| Buffalograss (<i>Buchloe dactyloides</i>) | Prairie cordgrass (<i>Spartina pectinata</i>) |
| Compassplant (<i>Silphium laciniatum</i>) | Purpletop (<i>Tridens flavus</i>) |
| Curlycup gumweed (<i>Grindelia squarrosa</i>) | Sand bluestem (<i>Andropogon hali</i>) |
| Dotted gayfeather (<i>Liatris punctata</i>) | Sand dropseed (<i>Sporobolus cryptandrus</i>) |
| Engelmann daisy (<i>Englemannia pinnatifida</i>) | Sand lovegrass (<i>Eragrostis trichodes</i>) |
| Fall witchgrass (<i>Leptoloma cognatum</i>) | Scribner panicum (<i>Panicum scribnerianum</i>) |
| Hairy grama (<i>Bouteloua hirsuta</i>) | Sideoats grama (<i>Bouteloua curtipendula</i>) |
| Halfshrub sundrop (<i>Oenothera serrulata</i>) | Switchgrass (<i>Panicum virgatum</i>) |
| Heath aster (<i>Aster ericoides</i>) | Tall dropseed (<i>Sporobolus asper</i>) |
| Indiangrass (<i>Sorghastrum nutans</i>) | Texas bluegrass (<i>Poa arachnifera</i>) |
| Inland saltgrass (<i>Distichlis stricta</i>) | Vine mesquite (<i>Panicum obtusum</i>) |
| Johnsongrass (<i>Sorghum halepense</i>) | Weeping lovegrass (<i>Eragrostis curvula</i>) |
| Knotroot bristlegrass (<i>Setaria geniculata</i>) | Western wheatgrass (<i>Agropyron smithii</i>) |
| | Wildrye (<i>Elymus</i> spp.) |

2. Grasses and Forbs with Poor Grazing Value

| | |
|--------------------------------------------------------|---------------------------------------------------------|
| Annual ragweed (<i>Ambrosia</i> spp.) | Little barley (<i>Hordeum pusillum</i>) |
| Annual sunflower (<i>Helianthus annuus</i>) | Milkweed (<i>Asclepias</i> spp.) |
| Annual threeawn (<i>Aristida</i> spp.) | Perennial threeawn (<i>Aristida</i> spp.) |
| Basketflower (<i>Centaurea americana</i>) | Plains coreopsis (<i>Coreopsis tinctoria</i>) |
| Beebalm (<i>Monarda</i> spp.) | Prairie coneflower (<i>Ratibida</i> spp.) |
| Bitter sneezeweed (<i>Helenium tenuifolium</i>) | Puffsheath dropseed (<i>Sporobolus neglectus</i>) |
| Blackeyed susan (<i>Rudbeckia hirta</i>) | Red lovegrass (<i>Eragrostis oxylepis</i>) |
| Broomsedge bluestem (<i>Andropogon virginicus</i>) | Sagewort (<i>Artemisia</i> spp.) |
| Broom snakeweed (<i>Gutierrezia sarothrae</i>) | Silver bluestem (<i>Andropogon saccharoides</i>) |
| Buffalobur (<i>Solanum rostratum</i>) | Silverleaf nightshade (<i>Solanum elaeagnifolium</i>) |
| Cocklebur (<i>Zanthium</i> spp.) | Snow-on-the-Mountain (<i>Euphorbia marginata</i>) |
| Common broomweed (<i>Gutierrezia dracunculoides</i>) | Splitbeard bluestem (<i>Andropogon ternarius</i>) |
| Common yarrow (<i>Achillea millefolium</i>) | Texas croton (<i>Croton texensis</i>) |
| Daisy fleabane (<i>Erigeron ramosus</i>) | Threadleaf groundsel (<i>Senecio longilobus</i>) |
| Eastern gamagrass (<i>Tripsacum dactyloides</i>) | Tumblegrass (<i>Schedonnardus paniculatus</i>) |
| Florida paspalum (<i>Paspalum floridanum</i>) | Wax goldenweed (<i>Haplopappus ciliatus</i>) |
| Goldenrod (<i>Solidago</i> spp.) | Western ragweed (<i>Ambrosia psilostachya</i>) |
| Hairy tridens (<i>Tridens pilosus</i>) | Windmillgrass (<i>Chloris verticillata</i>) |
| Ironweed (<i>Vernonia</i> spp.) | |

3. Forage Legumes

Legumes with Good Grazing Value

| | |
|---------------------------------------------------------|----------------------------------------------------|
| Catclaw sensitivebrier (<i>Schrankia uncinata</i>) | Small Hop (<i>T. debium</i>) |
| Illinois bundleflower (<i>Desmanthus illinoensis</i>) | White (<i>T. repens</i>) |
| Korean lespedeza (<i>Lespedeza stipulacea</i>) | Sweetclover (<i>Melilotus</i> spp.) |
| Leadplant (<i>Amorpha canescens</i>) | White biennial (<i>M. alba</i>) |
| Prairieclover (<i>Petalostemum</i> spp.) | Yellow biennial (<i>M. officinalis</i>) |
| Roundhead lespedeza (<i>Lespedeza capitata</i>) | Austrian Winter fieldpeas (<i>Pisum sativum</i>) |
| Slender lespedeza (<i>Lespedeza virginica</i>) | Birdsfoot trefoil (<i>Lotus corniculatus</i>) |
| Tephrosia (<i>Tephrosia</i> spp.) | Common lespedeza (<i>Lespedeza striata</i>) |
| Tickclover (<i>Desmodium</i> spp.) | Sericea lespedeza (<i>Lespedeza cuneata</i>) |
| Alfalfa (<i>Medicago sativa</i>) | Cowpeas (<i>Vigna sinensis</i>) |
| Black medic (<i>Medicago lupulina</i>) | Crownvetch (<i>Coronilla varia</i>) |
| Clovers (<i>Trifolium</i> spp.) | Kudzu (<i>Pueraria thunbergiana</i>) |
| Arrowleaf (<i>T. vesiculosum</i>) | Vetch (<i>Vicia</i> spp.) |
| Crimson (<i>T. incarnatum</i>) | Hairy (<i>V. villosa</i>) |
| Large Hop (<i>T. procumbens</i>) | Common (<i>V. saliva</i>) |
| Red (<i>T. pretense</i>) | Narrowleaf (<i>V. angustifolia</i>) |

Legumes with Fair Grazing Value

| | |
|-----------------------------------------------|--------------------------------------------------------|
| Dalea (<i>Dalea</i> spp.) | Scurfpea (<i>Psoralea</i> spp.) |
| Groundplum (<i>Astragalus crassicaeris</i>) | Showy partridgepea (<i>Chamaecrista fasciculata</i>) |
| Prairie acacia (<i>Acacia angustissima</i>) | |

Legumes with Poor Grazing Value

| | |
|--------------------------------|------------------------------------|
| Loco (<i>Astragalus</i> spp.) | Wildindigo (<i>Baptisia</i> spp.) |
|--------------------------------|------------------------------------|

EXHIBITING FORAGE BUNDLES

Size of the Bundle. If possible, the bundle should be 3" to 5" in diameter, well cured and tied tightly with heavy white cord (e.g., sash cord) or string in at least three places. Forge bundles should include that part of the plant usually cut for forage, e.g. cut 3-8" above ground. Harvest enough to allow culling to obtain good sample.

Preparation of Bundle. Plants should be hung upside down immediately after harvest to allow leaves to dry straight down. Hanging also helps prevent mice damage. Hang in dry place in barn or shed. Protect from bird damage. Remove from storage and tie in bundles at or near show time. Do not strip leaves from forage plants when making bundles. Bundles should be thoroughly dry. Wet bundles will be disqualified.

SCORE CARDS

SORGHUM, CORN, AND MILLET FORAGE BUNDLES

| | |
|-----------------------------------------------------------------------------------------|-----------|
| Leaves, Stalks and Color | 50 |
| Leaves large, numerous, and dark green, stalks large and of uniform size and height. | |
| Condition | 15 |
| Free from mold and insect or disease damage. | |
| Preparation of Bundle | 15 |
| Head or Ear Development | 20 |
| Heads or ears large, well developed and uniform in size. Seed in soft to hard-dough. | |
| Total | <hr/> 100 |

OTHER FORAGE BUNDLES

| | |
|------------------------------------------------------------------------------------------------------------------------------|-----------|
| Leafiness | 30 |
| Leaves large, numerous, and dark green in color. High ratio of leaves to stems. | |
| Condition | 15 |
| Free from mold and insect or disease damage. | |
| Preparation of Bundle | 15 |
| Foreign Material | 20 |
| All foreign material objectionable. Weed plants more serious than non-weed plants. | |
| Maturity | 20 |
| Alfalfa 1/10 to 1/4 of plants in bloom. Clover 1/2 to full bloom. Grass in late boot or early heading stage of growth. | |
| Total | <hr/> 100 |

SMALL GRAIN BUNDLES SCORE CARD

| | | |
|-------------------------|-------------------------------------------------------|-----------|
| Head (Spike or Panicle) | Large, well filled and disease-free spike or panicle. | 50 |
| Maturity | Seeds plump and well matured. | 30 |
| Preparation of Bundle | Bundle properly tied with leaves stripped. | <u>20</u> |
| Total | | 100 |

FORAGE PLANT LIFE CYCLE EXHIBIT

This exhibit consists of a forage plant with a desirable or undesirable grazing value displayed in different stages of growth. Required stages of growth are seed, seedling, vegetative, flowering, and mature. Additional stages of growth may be displayed if it adds to the exhibit.

A portion of the root system must be included with each stage of growth, and the season (spring, summer, fall, winter) for each stage of growth should be indicated. Special characteristics for identification should also be labeled.

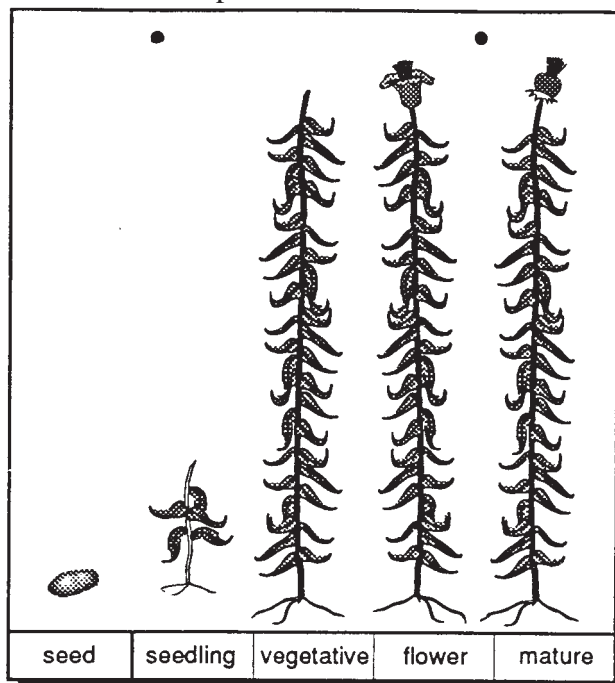
The display may be mounted on posterboard, pegboard, or other material of suitable size to avoid crowding the plants but not larger than 24" x 36". Two 1/2" holes 1" from the top must be drilled to facilitate displaying the exhibit.

Exhibitor's name and address must be on the back of the exhibit.

The plants can be prepared for this exhibit and attached to the board in the same manner as indicated for forage plant exhibits.

Select a plant that is handy for you so it will be easy to collect the plants in their different stages.

1/2" holes
1" from the top . Flower Seed



Information identifying growth stage, season of year each stage occurs, and special characteristics for identifying the plant in this stage of growth.

Include part of the root system on all stages that have roots.

HAY EXHIBITS

Several counties have hay shows in connection with their county fair or perhaps in some cases as a separate event.

Amount to Exhibit

If space is available three bales make a nice exhibit. However, if space is not available, one bale could be used as the exhibit.

Protein content is very important when judging hay shows. Samples should be sent to a lab for analysis two weeks before the show so show judges will have the official protein content to consider when judging. Samples for the protein content should be taken under the supervision of fair officials.

FOR INFORMATION ON HOW TO TAKE A PROPER HAY SAMPLE FOR ANALYSIS REFER TO OSU FACT SHEET 1705 "COLLECTING FORAGE SAMPLES ES FOR ANALYSIS".

SCORE CARD FOR HAY SHOWS

| | Grass | Legumes |
|-------------------------------|-------|---------|
| Maturity | 40 | 20 |
| Texture | 20 | 15 |
| Leafiness | 10 | 35 |
| Freedom from foreign material | 20 | 20 |
| Color | 10 | 10 |
| Size and shape of bale | 5 | 5 |
| Crude protein | 30 | 30 |

How To Determine Crude Protein Score When Percent Crude Protein is Known

Grass hay score = Crude protein x 2.5

Grass legume hay score = Crude protein x 1.875

Legume hay score = Crude protein x 1.5

Example - A grass legume hay sample has a crude protein of 13% (from OSU test)

$$13\% \times 1.875 = 24.375$$

There the score for crude protein is 24.4 for that sample.

If no official crude protein test is made, the placings must be based on the other items on the score card.